

ADDITIONAL INFORMATION  
ON PAGE 1-A

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# Stolen U.S. Technology Boosts Soviet Strength, Report Says

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The Soviet Union, in what appears to be a carefully planned program approved by the Kremlin's top leadership, has used large amounts of stolen and legally acquired U.S. technology to achieve "giant strides in military strength," according to a Senate report released yesterday.

The report by the Senate permanent subcommittee on investigations was based on a declassified Central Intelligence Agency study and on testimony that disclosed, among other things, how Soviet agents set up a U.S. company that transferred \$10 million worth of sensitive microprocessor manufacturing equipment to the Soviet Union.

"The U.S. research and development establishment is viewed by the Soviets as a mother lode . . . In fact, they tap into it so frequently that one must wonder if they re-

gard U.S. R and D as their own national asset," Jack Verona of the Defense Intelligence Agency told the subcommittee in a May hearing.

Soviet efforts to obtain the technology came at a time when Yuri V. Andropov, the new Soviet leader, headed the KGB, the Soviet security police and intelligence agency.

The Senate report culminates an investigation of more than two years that was led by Sen. Sam Nunn (D-Ga.), now the subcommittee's ranking minority member.

It charges the Commerce Department with slipshod enforcement of trade controls and calls on the U.S. intelligence community and law enforcement agencies to be more aggressive in stemming the flow of microelec-

tronic, laser, radar and precision manufacturing technology to the Soviets.

In detailing a pattern of attempted theft, bribery and other abuses by the Soviets, it appears to buttress the Reagan administration's ongoing campaign for tough restrictions on trade involving products and processes with a potential military application.

On Saturday, President Reagan announced that allies, including Japan, had agreed to improve the monitoring of high-technology trade with the Soviets, while lifting trade sanctions on oil and natural gas equipment with no direct military application.

Although there is broad agreement that the Soviets are engaged in a massive effort to acquire western technology by any means, the extent of the damage to national security is a subject of debate.

A declassified CIA study released in April said the Soviets have been able to obtain aircraft catapult technology, precision ball bearings needed for missile accuracy, and gyroscopes.

The study said western microelectronics know-how "has permitted the Soviets to systematically build a modern microelectronics industry which will be the critical basis for enhancing the sophistication of future Soviet military systems for decades."

Soviet Ryad computers, for example, are patterned after IBM 360 and 370 mainframe computers purchased in the West.

Nevertheless, some industry representatives have questioned whether the Soviets, given their difficulties in mastering complex manufacturing techniques, can use effectively information they have been receiving.

Former CIA deputy director Bobby R. Inman acknowledged in his testimony to the subcommittee that the agency is in the early stages of examining the problem.

As a result, the U.S. government has only piecemeal evidence of what the Soviet military has obtained from this country, the now-retired Navy admiral said.

Earlier this year, a special panel of the National Academy of Sciences concluded that there has been a "substantial transfer of U.S. technology—much of it directly relevant to military systems—to the Soviet Union from diverse sources."

But it maintained that very little technology had been transferred through universities and scientific exchanges.

Scientists had expressed fears that undue concern about loss of technology to the Soviets could result in overclassification of government documents and an end to exchanges that in some cases add to U.S. knowledge.

While the report dealt only with the Soviet Union, law enforcement officials note that U.S. firms have also been victimized by domestic competitors and other nations, such as Japan.

Thefts of electronic technology and commodities totaling \$100 million were reported in California's Silicon Valley alone over the last five years, according to Douglas K. Southard, deputy district attorney of Santa Clara County, Calif.

During five days of hearings in May, witnesses detailed several Soviet intelligence operations against U.S. "high-tech" industries.

The boldest known espionage effort involved West German Werner J. Bruchhausen, who set up a group of companies in West Germany and southern California with the help of a U.S. accomplice known as Tony Metz, a naturalized American born in the Soviet Union.

Between 1970 and 1980, Bruchhausen's companies bought computer-aided design equipment, photolithographic devices for making integrated circuits and other items needed to make quality microproces-